

Title (en)

Method and apparatus for controlling motorgrader cross slope cut.

Title (de)

Verfahren und Vorrichtung zur Steuerung eines durch einen Motorgrader ausgehobenen Schrägquerschnittes.

Title (fr)

Méthode et dispositif de commande pour la coupe d'une section inclinée effectuée par une niveleuse.

Publication

EP 0405725 A2 19910102 (EN)

Application

EP 90304714 A 19900501

Priority

US 37290989 A 19890628

Abstract (en)

A method and apparatus are disclosed for controlling the cross slope angle cut by the blade (114) of an articulated frame motorgrader (100) operated in the crabbed steering mode wherein the articulation angle (A) of the motorgrader frame is sensed and used to calculate the blade angle relative to horizontal required to maintain a desired cross slope angle. The blade angle is sensed and controlled such that the sensed blade angle is maintained substantially equal to the calculated blade angle. The blade angle calculation is performed using the equation: $\tan B = (\sin (A+R)) (\tan L) + (\cos (A+R)) (\tan C)$ where B is the required blade slope angle of the blade (114) relative to horizontal; A is the sensed angle of rotation of a steering unit (106) relative to a drive unit (102), the steering unit (106) and drive unit (102) making up the motorgrader (100) articulated frame; R is the sensed angle of rotation of the blade (114) relative to the steering unit (106); L is the sensed direction of travel slope angle of the motorgrader (100); and, C is the desired cross slope angle which is entered by an operator of the motorgrader (100).

IPC 1-7

E02F 3/84; **E02F 3/85**; **E02F 9/20**

IPC 8 full level

E02F 3/85 (2006.01); **E02F 3/84** (2006.01); **E02F 9/08** (2006.01); **E02F 9/20** (2006.01)

CPC (source: EP US)

E02F 3/845 (2013.01 - EP US); **E02F 9/0841** (2013.01 - EP US); **E02F 9/2037** (2013.01 - EP US); **Y10S 37/907** (2013.01 - EP US)

Cited by

US6108076A; US10620004B2; US6253160B1

Designated contracting state (EPC)

DE FR GB NL SE

DOCDB simple family (publication)

US 4926948 A 19900522; AU 5472790 A 19910103; CA 2015607 A1 19901228; EP 0405725 A2 19910102; EP 0405725 A3 19911127; JP H0339526 A 19910220

DOCDB simple family (application)

US 37290989 A 19890628; AU 5472790 A 19900507; CA 2015607 A 19900427; EP 90304714 A 19900501; JP 12808590 A 19900517